



SEQUENCE LISTING

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<120> INTERFERON VARIANTS WITH IMPROVED PROPERTIES

<130> A-71431-3

<140> US 10/676,705

<141> 2003-09-30

<150> US 60/489,725

<151> 2003-07-24

<150> US 60/477,246

<151> 2003-06-10

<150> US 60/415,541

<151> 2002-10-01

<160> 90

<170> PatentIn version 3.2

<210> 1

<211> 189

<212> PRT

<213> Homo sapiens

<400> 1

Met Ala Ser Pro Phe Ala Leu Leu Met Val Leu Val Val Leu Ser Cys
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Lys Ser Ser Cys Ser Leu Gly Cys Asp Leu Pro Glu Thr His Ser Leu
20 25 30

Asp Asn Arg Arg Thr Leu Met Leu Leu Ala Gln Met Ser Arg Ile Ser
35 40 45

Pro Ser Ser Cys Leu Met Asp Arg His Asp Phe Gly Phe Pro Gln Glu
50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Pro Ala Ile Ser Val Leu
65 70 75 80

His Glu Leu Ile Gln Gln Ile Phe Asn Leu Phe Thr Thr Lys Asp Ser
85 90 95

Ser Ala Ala Trp Asp Glu Asp Leu Leu Asp Lys Phe Cys Thr Glu Leu
100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Met Gln Glu Glu Arg
115 120 125

Val Gly Glu Thr Pro Leu Met Asn Ala Asp Ser Ile Leu Ala Val Lys
130 135 140

Lys Tyr Phe Arg Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
165 170 175

Leu Ser Thr Asn Leu Gln Glu Arg Leu Arg Arg Lys Glu
180 185

<210> 2
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<213> Homo sapiens

<400> 2

Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1 5 10 15

Leu Leu Ala Gln Met Arg Lys Ile Ser Leu Phe Ser Cys Leu Lys Asp
20 25 30

Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
35 40 45

Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
50 55 60

Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65 70 75 80

Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
85 90 95

Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
100 105 110

Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu

115 120 125
 Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
 130 135 140
 Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
 145 150 155 160
 Leu Arg Ser Lys Glu
 165
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 <213> Homo sapiens
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 Met Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu
 1 5 10 15
 Met Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys
 20 25 30
 Asp Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe
 35 40 45
 Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile
 50 55 60
 Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr
 65 70 75 80
 Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu
 85 90 95
 Glu Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met
 100 105 110
 Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr
 115 120 125
 Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val
 130 135 140
 Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu
 145 150 155 160

Ser Leu Arg Ser Lys Glu
165

<210> 4
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<213> Homo sapiens

<400> 4

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
35 40 45

His Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Glu Glu
50 55 60

Glu Phe Asp Gly His Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Glu Asp Ser
85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
115 120 125

Val Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
165 170 175

Phe Ser Thr Asn Leu Gln Lys Arg Leu Arg Arg Lys Asp
180 185

<210> 5

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<400> 5

Met Ala Leu Pro Phe Val Leu Leu Met Ala Leu Val Val Leu Asn Cys
1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
20 25 30

Ser Asn Arg Arg Thr Leu Met Ile Met Ala Gln Met Gly Arg Ile Ser
35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
85 90 95

Ser Ala Thr Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu
100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Met Met Gln Glu Val Gly
115 120 125

Val Glu Asp Thr Pro Leu Met Asn Val Asp Ser Ile Leu Thr Val Arg
130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
165 170 175

Leu Ser Ala Asn Leu Gln Glu Arg Leu Arg Arg Lys Glu
180 185

<210> 6
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<213> Homo sapiens

<400> 6

Met Ala Leu Pro Phe Ala Leu Leu Met Ala Leu Val Val Leu Ser Cys
 1 5 10 15

Lys Ser Ser Cys Ser Leu Asp Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly His Arg Arg Thr Met Met Leu Leu Ala Gln Met Arg Arg Ile Ser
 35 40 45

Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Arg Phe Pro Gln Glu
 50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Glu Ala Ile Ser Val Leu
 65 70 75 80

His Glu Val Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
 85 90 95

Ser Val Ala Trp Asp Glu Arg Leu Leu Asp Lys Leu Tyr Thr Glu Leu
 100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Met Gln Glu Val Trp
 115 120 125

Val Gly Gly Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Ser Ser Arg Asn Leu Gln Glu Arg Leu Arg Arg Lys Glu
 180 185

<210> 7
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 <212> PRT
 <213> Homo sapiens

<400> 7

Met Ala Arg Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Arg Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Glu Phe Arg Phe Pro Glu Glu
 50 55 60

Glu Phe Asp Gly His Gln Phe Gln Lys Thr Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Glu Asp Ser
 85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
 100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
 115 120 125

Val Glu Glu Thr Pro Leu Met Asn Glu Asp Phe Ile Leu Ala Val Arg
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Phe Ser Thr Asn Leu Lys Lys Gly Leu Arg Arg Lys Asp
 180 185

<210> 8
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 <212> PRT
 <213> Homo sapiens

<400> 8

Met Ala Leu Thr Phe Tyr Leu Met Val Ala Leu Val Val Leu Ser Tyr
 1 5 10 15

Lys Ser Phe Ser Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Arg Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu
50 55 60

Glu Phe Asp Asp Lys Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
85 90 95

Ser Ala Ala Leu Asp Glu Thr Leu Leu Asp Glu Phe Tyr Ile Glu Leu
100 105 110

Asp Gln Gln Leu Asn Asp Leu Glu Val Leu Cys Asp Gln Glu Val Gly
115 120 125

Val Ile Glu Ser Pro Leu Met Tyr Glu Asp Ser Ile Leu Ala Val Arg
130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
145 150 155 160

Ser Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
165 170 175

Leu Ser Ile Asn Leu Gln Lys Arg Leu Lys Ser Lys Glu
180 185

<210> 9
<211> 189
<212> PRT
<213> Homo sapiens

<400> 9

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Gly Gln Met Gly Arg Ile Ser
35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Arg Ile Pro Gln Glu
50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Glu Asp Ser
85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
115 120 125

Val Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Ile Glu Arg Lys Tyr Ser
145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
165 170 175

Phe Ser Thr Asn Leu Gln Lys Arg Leu Arg Arg Lys Asp
180 185

<210> 10
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<212> PRT
<213> Homo sapiens

<400> 10

Met Ala Ser Pro Phe Ala Leu Leu Met Ala Leu Val Val Leu Ser Cys
1 5 10 15

Lys Ser Ser Cys Ser Leu Gly Cys Asp Leu Pro Glu Thr His Ser Leu
20 25 30

Asp Asn Arg Arg Thr Leu Met Leu Leu Ala Gln Met Ser Arg Ile Ser
35 40 45

Pro Ser Ser Cys Leu Met Asp Arg His Asp Phe Gly Phe Pro Gln Glu
50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Pro Ala Ile Ser Val Leu
65 70 75 80

His Glu Leu Ile Gln Gln Ile Phe Asn Leu Phe Thr Thr Lys Asp Ser
85 90 95

Ser Ala Ala Trp Asp Glu Asp Leu Leu Asp Lys Phe Cys Thr Glu Leu
100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Met Gln Glu Glu Arg
115 120 125

Val Gly Glu Thr Pro Leu Met Asn Ala Asp Ser Ile Leu Ala Val Lys
130 135 140

Lys Tyr Phe Arg Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
165 170 175

Leu Ser Thr Asn Leu Gln Glu Arg Leu Arg Arg Lys Glu
180 185

<210> 11
<211> 189
<212> PRT
<213> Homo sapiens

<400> 11

Met Ala Leu Pro Phe Ala Leu Met Met Ala Leu Val Val Leu Ser Cys
1 5 10 15

Lys Ser Ser Cys Ser Leu Gly Cys Asn Leu Ser Gln Thr His Ser Leu
20 25 30

Asn Asn Arg Arg Thr Leu Met Leu Met Ala Gln Met Arg Arg Ile Ser
35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu
50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
65 70 75 80

His Glu Met Met Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asn Ser
85 90 95

Ser Ala Ala Trp Asp Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu Leu
100 105 110

Phe Gln Gln Met Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
115 120 125

Val Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Lys
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Phe Ser Thr Asn Leu Gln Lys Arg Leu Arg Arg Lys Asp
 180 185

<210> 12
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 <212> PRT
 <213> Homo sapiens

<400> 12

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
 35 40 45

His Phe Ser Cys Leu Lys Asp Arg Tyr Asp Phe Gly Phe Pro Gln Glu
 50 55 60

Val Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Ala Phe
 65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
 85 90 95

Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Ile Glu Leu
 100 105 110

Phe Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Thr Gln Glu Val Gly
 115 120 125

Val Glu Glu Ile Ala Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Met Gly Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Phe Ser Thr Asn Leu Gln Lys Gly Leu Arg Arg Lys Asp
 180 185

<210> 13
 <211> 189
 <212> PRT
 <213> Homo sapiens

<400> 13

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Leu Pro Gln Glu
 50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Thr Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Glu Asp Ser
 85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
 100 105 110

Tyr Gln Gln Leu Asn Asn Leu Glu Ala Cys Val Ile Gln Glu Val Gly
 115 120 125

Met Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
 165 170 175

Phe Ser Thr Asn Leu Gln Lys Ile Leu Arg Arg Lys Asp
 180 185

<210> 14
 <211> 189
 <212> PRT
 <213> Homo sapiens

<400> 14

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
 50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
 85 90 95

Ser Ala Thr Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
 100 105 110

Asn Gln Gln Leu Asn Asp Met Glu Ala Cys Val Ile Gln Glu Val Gly
 115 120 125

Val Glu Glu Thr Pro Leu Met Asn Val Asp Ser Ile Leu Ala Val Lys
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Leu Ser Lys Ile Phe Gln Glu Arg Leu Arg Arg Lys Glu
 180 185

<210> 15
 <211> 166
 <212> PRT
 <213> Homo sapiens

<400> 15

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 16
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 16

Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
 1 5 10 15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
20 25 30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
35 40 45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
50 55 60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
65 70 75 80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
85 90 95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
100 105 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
115 120 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
130 135 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145 150 155 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
165 170 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
180 185 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
195 200 205

<210> 17
<211> 208
<212> PRT
<213> Homo sapiens

<400> 17

Met Ile Ile Lys His Phe Phe Gly Thr Val Leu Val Leu Leu Ala Ser
1 5 10 15

Thr Thr Ile Phe Ser Leu Asp Leu Lys Leu Ile Ile Phe Gln Gln Arg

20										25					30															
Gln	Val	Asn	Gln	Glu	Ser	Leu	Lys	Leu	Leu	Asn	Lys	Leu	Gln	Thr	Leu															
		35					40					45																		
Ser	Ile	Gln	Gln	Cys	Leu	Pro	His	Arg	Lys	Asn	Phe	Leu	Leu	Pro	Gln															
	50					55					60																			
Lys	Ser	Leu	Ser	Pro	Gln	Gln	Tyr	Gln	Lys	Gly	His	Thr	Leu	Ala	Ile															
65					70					75					80															
Leu	His	Glu	Met	Leu	Gln	Gln	Ile	Phe	Ser	Leu	Phe	Arg	Ala	Asn	Ile															
			85						90					95																
Ser	Leu	Asp	Gly	Trp	Glu	Glu	Asn	His	Thr	Glu	Lys	Phe	Leu	Ile	Gln															
			100					105						110																
Leu	His	Gln	Gln	Leu	Glu	Tyr	Leu	Glu	Ala	Leu	Met	Gly	Leu	Glu	Ala															
		115					120					125																		
Glu	Lys	Leu	Ser	Gly	Thr	Leu	Gly	Ser	Asp	Asn	Leu	Arg	Leu	Gln	Val															
	130					135					140																			
Lys	Met	Tyr	Phe	Arg	Arg	Ile	His	Asp	Tyr	Leu	Glu	Asn	Gln	Asp	Tyr															
145					150				155					160																
Ser	Thr	Cys	Ala	Trp	Ala	Ile	Val	Gln	Val	Glu	Ile	Ser	Arg	Cys	Leu															
				165					170					175																
Phe	Phe	Val	Phe	Ser	Leu	Thr	Glu	Lys	Leu	Ser	Lys	Gln	Gly	Arg	Pro															
			180					185					190																	
Leu	Asn	Asp	Met	Lys	Gln	Glu	Leu	Thr	Thr	Glu	Phe	Arg	Ser	Pro	Arg															
		195					200					205																		
<210>	18																													
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<213>	Homo sapiens																													
<400>	18																													
Met	Ala	Leu	Leu	Phe	Pro	Leu	Leu	Ala	Ala	Leu	Val	Met	Thr	Ser	Tyr															
1				5					10					15																
Ser	Pro	Val	Gly	Ser	Leu	Gly	Cys	Asp	Leu	Pro	Gln	Asn	His	Gly	Leu															
			20					25					30																	

Leu Ser Arg Asn Thr Leu Val Leu Leu His Gln Met Arg Arg Ile Ser
 35 40 45

Pro Phe Leu Cys Leu Lys Asp Arg Arg Asp Phe Arg Phe Pro Gln Glu
 50 55 60

Met Val Lys Gly Ser Gln Leu Gln Lys Ala His Val Met Ser Val Leu
 65 70 75 80

His Glu Met Leu Gln Gln Ile Phe Ser Leu Phe His Thr Glu Arg Ser
 85 90 95

Ser Ala Ala Trp Asn Met Thr Leu Leu Asp Gln Leu His Thr Gly Leu
 100 105 110

His Gln Gln Leu Gln His Leu Glu Thr Cys Leu Leu Gln Val Val Gly
 115 120 125

Glu Gly Glu Ser Ala Gly Ala Ile Ser Ser Pro Ala Leu Thr Leu Arg
 130 135 140

Arg Tyr Phe Gln Gly Ile Arg Val Tyr Leu Lys Glu Lys Lys Tyr Ser
 145 150 155 160

Asp Cys Ala Trp Glu Val Val Arg Met Glu Ile Met Lys Ser Leu Phe
 165 170 175

Leu Ser Thr Asn Met Gln Glu Arg Leu Arg Ser Lys Asp Arg Asp Leu
 180 185 190

Gly Ser Ser
 195

<210> 19
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 19

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 20
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 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 20

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln

50		55		60
Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn				
65		70		75 80
Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn				
	85		90	95
His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr				
	100		105	110
Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg				
	115		120	125
Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr				
	130		135	140
Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu				
145		150		155 160
Thr Gly Tyr Leu Arg Asn				
	165			
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<211> 166				
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Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln				
1		5		10 15
Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu				
	20		25	30
Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln				
	35		40	45
Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln				
	50		55	60
Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn				
65		70		75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

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<220>
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<400> 22

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 23
 <211> 166
 <212> PRT
 <213> Artificial .

<220>
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<400> 23

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 24
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 24

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn

165

<210> 25
<211> 166
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<220> .
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<400> 25

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

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<400> 26

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 27

<211> 180

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 27

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Ala Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 28

<211> 180

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 28

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 29
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 29

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
 35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 30
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 30

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 31
 <211> 757
 <212> DNA
 <213> Homo sapiens

<400> 31
 atgaccaaca agtgtctcct ccaaattgct ctctgttgt gcttctccac tacagctctt 60
 tccatgagct acaacttgct tggattccta caaagaagca gcaattttca gtgtcagaag 120
 ctctgtggc aattgaatgg gaggcttgaa tattgcctca aggacaggat gaactttgac 180
 atccctgagg agattaagca gctgcagcag ttccagaagg aggacgccgc attgaccatc 240
 tatgagatgc tccagaacat ctttgctatt ttcagacaag attcatctag cactggctgg 300
 aatgagacta ttgttgagaa cctcctggct aatgtctatc atcagataaa ccatctgaag 360
 acagtcctgg aagaaaaact ggagaaagaa gattttacca ggggaaaact catgagcagt 420

ctgcacctga aaagatatatta tgggaggatt ctgcattacc tgaaggccaa ggagtacagt 480
 cactgtgcct ggaccatagt cagagtggaa atcctaagga acttttactt cattaacaga 540
 cttacaggtt acctccgaaa ctgaagatct cctagcctgt ccctctggga ctggacaatt 600
 gcttcaagca ttcttcaacc agcagatgct gtttaagtga ctgatggcta atgtactgca 660
 aatgaaagga cactagaaga ttttgaaatt tttattaaat tatgagttat ttttatttat 720
 ttaaatttta ttttgaaaaa taaattattt ttggtgc 757

<210> 32
 <211> 187
 <212> PRT
 <213> Homo sapiens

<400> 32

Met Thr Asn Lys Cys Leu Leu Gln Ile Ala Leu Leu Leu Cys Phe Ser
 1 5 10 15

Thr Thr Ala Leu Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg
 20 25 30

Ser Ser Asn Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg
 35 40 45

Leu Glu Tyr Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu
 50 55 60

Ile Lys Gln Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile
 65 70 75 80

Tyr Glu Met Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser
 85 90 95

Ser Thr Gly Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val
 100 105 110

Tyr His Gln Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu
 115 120 125

Lys Glu Asp Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys
 130 135 140

Arg Tyr Tyr Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser
 145 150 155 160

His Cys Ala Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr
165 170 175

Phe Ile Asn Arg Leu Thr Gly Tyr Leu Arg Asn
180 185

<210> 33
<211> 166
<212> PRT
<213> Homo sapiens

<400> 33

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 34
<211> 186

<212> PRT
<213> Homo sapiens

<400> 34

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn Met Gly Ser Ser His His His His His His
165 170 175

Ser Ser Gly Leu Val Pro Arg Gly Ser His
180 185

<210> 35
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 35

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 36

<211> 166

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 36

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu

20					25					30					
Lys	Asp	Arg	Met	Asn	Phe	Asp	Ile	Pro	Glu	Glu	Ile	Lys	Gln	Leu	Gln
	35						40					45			
Gln	Phe	Gln	Lys	Glu	Asp	Ala	Ala	Leu	Thr	Ile	Tyr	Glu	Met	Leu	Gln
	50					55					60				
Asn	Ile	Phe	Ala	Ile	Phe	Arg	Gln	Asp	Ser	Ser	Ser	Thr	Gly	Trp	Asn
65					70					75					80
Glu	Thr	Ile	Val	Glu	Asn	Leu	Leu	Ala	Asn	Val	Tyr	His	Gln	Ile	Asn
				85					90					95	
His	Leu	Lys	Thr	Val	Leu	Glu	Glu	Lys	Leu	Glu	Lys	Glu	Asp	Phe	Thr
			100					105					110		
Arg	Gly	Lys	Leu	Met	Ser	Ser	Leu	His	Leu	Lys	Arg	Tyr	Tyr	Gly	Arg
		115					120					125			
Ile	Leu	His	Tyr	Leu	Lys	Ala	Lys	Glu	Tyr	Ser	His	Cys	Ala	Trp	Thr
	130					135					140				
Ile	Val	Arg	Val	Glu	Ile	Leu	Arg	Asn	Phe	Tyr	Phe	Ile	Asn	Arg	Leu
145					150					155					160
Thr	Gly	Tyr	Leu	Arg	Asn										
				165											

<210> 37
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 37

Met	Ser	Tyr	Asn	Leu	Leu	Gly	Glu	Leu	Gln	Arg	Ser	Ser	Asn	Phe	Gln
1				5					10					15	
Cys	Gln	Lys	Leu	Leu	Trp	Gln	Leu	Asn	Gly	Arg	Leu	Glu	Tyr	Cys	Leu
			20					25					30		
Lys	Asp	Arg	Met	Asn	Phe	Asp	Ile	Pro	Glu	Glu	Ile	Lys	Gln	Lys	Gln
	35						40					45			

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 38
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 38

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 39
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 39

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 40
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 40

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr

130 135 140
 Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

 Thr Gly Tyr Leu Arg Asn
 165

 <210> 41
 <211> 166
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic

 <400> 41

 Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

 Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

 Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

 Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

 Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

 Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

 His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

 Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

 Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

 Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 42
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 42

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 43
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<213> Artificial

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<400> 43

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 44

<211> 166

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<400> 44

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 45
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<400> 45

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 46
<211> 166
<212> PRT
<213> Artificial

<220>
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<400> 46

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 47
<211> 166
<212> PRT
<213> Artificial

<220>
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<400> 47

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn

85

90

95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 48
 <211> 166
 <212> PRT
 <213> Artificial

<220>
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<400> 48

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 49
 <211> 166
 <212> PRT
 <213> Artificial

<220>
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<400> 49

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 50
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 <212> PRT
 <213> Artificial

<220>
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<400> 50

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 51
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 51

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 52
 <211> 166
 <212> PRT
 <213> Artificial

<220>

<223> synthetic

<400> 52

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 53

<211> 166

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 53

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 54
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 54

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln

35					40					45					
Gln	Phe	Gln	Lys	Glu	Asp	Ala	Ala	Leu	Thr	Ile	Tyr	Glu	Met	Leu	Gln
50						55					60				
Asn	Ile	Phe	Ala	Ile	Phe	Arg	Gln	Asp	Ser	Ser	Ser	Thr	Gly	Trp	Asn
65					70					75					80
Glu	Thr	Ile	Val	Glu	Asn	Leu	Leu	Ala	Asn	Val	Tyr	His	Gln	Ile	Asn
				85					90					95	
His	Leu	Lys	Thr	Val	Leu	Glu	Glu	Lys	Leu	Glu	Lys	Glu	Asp	Asn	Thr
			100					105					110		
Arg	Gly	Lys	Glu	Met	Ser	Ser	Leu	His	Leu	Lys	Arg	Tyr	Tyr	Gly	Arg
		115					120					125			
Ile	Leu	His	Tyr	Leu	Lys	Ala	Lys	Glu	Tyr	Ser	His	Cys	Ala	Trp	Thr
130						135					140				
Ile	Val	Arg	Val	Glu	Ile	Leu	Arg	Asn	Phe	Tyr	Phe	Ile	Asn	Arg	Leu
145					150					155					160
Thr	Gly	Tyr	Leu	Arg	Asn										
				165											

<210> 55
 <211> 166
 <212> PRT
 <213> Artificial

<220>
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<400> 55

Met	Ser	Tyr	Asn	Leu	Leu	Gly	Phe	Leu	Gln	Arg	Ser	Ser	Asn	Phe	Gln
1				5					10					15	
Cys	Gln	Lys	Leu	Leu	Trp	Gln	Leu	Asn	Gly	Arg	Leu	Glu	Tyr	Cys	Leu
			20					25					30		
Lys	Asp	Arg	Met	Asn	Phe	Asp	Ile	Pro	Glu	Glu	Ile	Lys	Gln	Leu	Gln
		35					40					45			
Gln	Phe	Gln	Lys	Glu	Asp	Ala	Ala	Leu	Thr	Ile	Tyr	Glu	Met	Leu	Gln
50						55					60				

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 56
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 56

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 57
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 57

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 58
 <211> 166
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 58

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
 35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu

145 150 155 160

 Thr Gly Tyr Leu Arg Asn
 165

 <210> 59
 <211> 166
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic

 <400> 59

 Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
 1 5 10 15

 Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
 20 25 30

 Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
 35 40 45

 Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
 50 55 60

 Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
 65 70 75 80

 Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
 85 90 95

 His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr
 100 105 110

 Arg Gly Lys Leu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
 115 120 125

 Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

 Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

 Thr Gly Tyr Leu Arg Asn
 165

<210> 60
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 60

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 61
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 61

Met Ser Tyr Asn Gln Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 62

<211> 166

<212> PRT

<213> Artificial

<220>

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<400> 62

Met Ser Tyr Asn Leu Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 63
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 63

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 64
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 64

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Lys Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn
165

<210> 65
<211> 166
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 65

Met Ser Tyr Asn Gln Leu Gly Glu Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Asn Thr

100	105	110
Arg Gly Lys Glu Met Ser Ser Arg His Leu Lys Arg Tyr Tyr Gly Arg		
115	120	125
Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr		
130	135	140
Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu		
145	150	155
160		
Thr Gly Tyr Leu Arg Asn		
165		
<210> 66		
<211> 166		
<212> PRT		
<213> Artificial		
<220>		
<223> synthetic		
<400> 66		
Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln		
1	5	10
15		
Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu		
20	25	30
Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Ser Gln		
35	40	45
Gln Ser Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln		
50	55	60
Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn		
65	70	75
80		
Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn		
85	90	95
His Leu Lys Thr Val Leu Glu Glu Lys Ser Glu Lys Glu Asp Ser Thr		
100	105	110
Arg Gly Lys Ser Met Ser Ser Ser His Leu Lys Arg Tyr Tyr Gly Arg		
115	120	125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
 130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
 145 150 155 160

Thr Gly Tyr Leu Arg Asn
 165

<210> 67
 <211> 180
 <212> PRT
 <213> Homo sapiens

<400> 67

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
180

<210> 68
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 68

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Gln Pro Arg Glu Cys
20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Ala Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys

180

<210> 69
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 69

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 70
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 70

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Ala Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 71
<211> 180
<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 71

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Gln Pro Arg Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 72

<211> 180

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 72

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Gln Pro Arg Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Ala Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 73

<211> 180

<212> PRT

<213> Artificial

<220>

<223> synthetic

<400> 73

Leu Asp Cys Asn Leu Leu Asn Asn His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Gln Pro Arg Glu Cys
 20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
 35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 74
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 74

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 75
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 75

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys

	20		25		30												
Leu	Arg	Glu	Asn	Ile	Ala	Phe	Glu	Leu	Pro	Gln	Glu	Phe	Leu	Gln	Gln		
		35					40					45					
Thr	Gln	Pro	Asn	Lys	Arg	Asp	Ile	Lys	Lys	Ala	Phe	Tyr	Glu	Met	Ser		
	50					55					60						
Leu	Gln	Ala	Phe	Asn	Ile	Phe	Ser	Gln	His	Thr	Ser	Lys	Ala	Trp	Lys		
65					70					75					80		
Glu	Arg	His	Leu	Lys	Gln	Ile	Gln	Thr	Gly	Leu	Asp	Gln	Gln	Ala	Glu		
				85					90					95			
Asp	Leu	Asn	Gln	Cys	Leu	Glu	Glu	Asp	Glu	Asn	Glu	Asn	Glu	Asp	Met		
			100					105					110				
Lys	Glu	Met	Lys	Glu	Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro		
		115					120					125					
Gln	Leu	Ser	Ser	Leu	Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn		
	130					135					140						
Phe	Leu	Lys	Glu	Lys	Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg		
145					150					155					160		
Val	Glu	Ile	Arg	Arg	Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu		
				165					170						175		
Phe	Arg	Arg	Lys														
			180														

<210> 76
 <211> 180
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic

 <400> 76

Leu	Asp	Cys	Asn	Leu	Leu	Asn	Val	His	Leu	Arg	Arg	Val	Thr	Arg	Gln
1				5					10					15	
Asn	Leu	Arg	His	Leu	Ser	Ser	Met	Ser	Asn	Ser	Phe	Pro	Val	Glu	Cys
			20					25					30		

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 77
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 77

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Ala Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 78
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 78

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 79
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 79

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Arg Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys

65		70		75		80
Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu	85			90		95
Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met	100			105		110
Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro	115			120		125
Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn	130			135		140
Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg	145			150		155
Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu	165			170		175
Phe Arg Arg Lys	180					
<210> 80						
<211> 180						
<212> PRT						
<213> Artificial						
<220>						
<223> synthetic						
<400> 80						
Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln	1	5		10		15
Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys	20			25		30
Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln	35			40		45
Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser	50			55		60
Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys	65	70		75		80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 81
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 81

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Ala Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 82
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 82

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
 35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 83
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 83

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro

115		120		125											
Gln	Leu	Ser	Ser	Leu	Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn
130						135						140			
Phe	Leu	Lys	Glu	Lys	Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg
145					150					155					160
Val	Glu	Ile	Arg	Arg	Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu
				165					170					175	
Phe	Arg	Arg	Lys												
			180												
<210>	84														
<211>	180														
<212>	PRT														
<213>	Artificial														
<220>															
<223>	synthetic														
<400>	84														
Leu	Asp	Cys	Asn	Leu	Leu	Asn	Val	His	Leu	Arg	Arg	Val	Thr	Trp	Gln
1				5					10					15	
Asn	Leu	Arg	His	Leu	Ser	Ser	Met	Ser	Asn	Ser	Phe	Pro	Val	Glu	Cys
			20					25					30		
Leu	Arg	Glu	Asn	Ile	Ala	Phe	Glu	Leu	Pro	Gln	Glu	Phe	Leu	Gln	Tyr
		35					40					45			
Thr	Gln	Pro	Met	Lys	Arg	Asp	Ile	Lys	Lys	Ala	Phe	Tyr	Glu	Met	Ser
		50				55					60				
Leu	Gln	Ala	Phe	Asn	Ile	Phe	Ser	Gln	His	Thr	Ser	Lys	Ala	Trp	Lys
65					70					75					80
Glu	Arg	His	Leu	Lys	Gln	Ile	Gln	Ile	Gly	Leu	Asp	Gln	Gln	Ala	Glu
				85					90					95	
Asp	Leu	Asn	Gln	Cys	Leu	Glu	Glu	Asp	Glu	Asn	Glu	Asn	Glu	Asp	Met
			100					105					110		
Lys	Glu	Met	Lys	Glu	Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro
		115					120					125			

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Ala Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 85
 <211> 180
 <212> PRT
 <213> Artificial

<220>
 <223> synthetic

<400> 85

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
 165 170 175

Phe Arg Arg Lys
 180

<210> 86
 <211> 180
 <212> PRT
 <213> Artificial

<220>
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<400> 86

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
 1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
 20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
 35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
 50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
 65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
 85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
 100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
 115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
 130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
 145 150 155 160

Ala Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 87
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 87

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu

165

170

175

Phe Arg Arg Lys
180

<210> 88
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 88

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Gln
35 40 45

Thr Gln Pro Asn Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Thr Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 89
<211> 180
<212> PRT
<213> Artificial

<220>
<223> synthetic

<400> 89

Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Gln Pro Arg Glu Cys
20 25 30

Leu Arg Glu Asn Asn Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Ser Lys Ala Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
85 90 95

Asp Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Ala Leu Ser Tyr Phe Thr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 90
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 90

Cys Tyr Leu Ser Arg Lys Leu Met Leu Asp Ala Arg Glu Asn Leu Lys
 1 5 10 15

Leu Leu Asp Arg Met Asn Arg Leu Ser Pro His Ser Cys Leu Gln Asp
 20 25 30

Arg Lys Asp Phe Gly Leu Pro Gln Glu Met Val Glu Gly Asp Gln Leu
 35 40 45

Gln Lys Asp Gln Ala Phe Pro Val Leu Tyr Glu Met Leu Gln Gln Ser
 50 55 60

Phe Asn Leu Phe Tyr Thr Glu His Ser Ser Ala Ala Trp Asp Thr Thr
 65 70 75 80

Leu Leu Glu Gln Leu Cys Thr Gly Leu Gln Gln Gln Leu Asp His Leu
 85 90 95

Asp Thr Cys Arg Gly Met Asp Pro Ile Val Thr Val Lys Lys Tyr Phe
 100 105 110

Gln Gly Ile Tyr Asp Tyr Leu Gln Glu Lys Gly Tyr Ser Asp Cys Ala
 115 120 125

Trp Glu Ile Val Arg Val Glu Met Met Arg Ala Leu Thr Val Ser Thr
 130 135 140

Thr Leu Gln Lys Arg Leu Thr Lys
 145 150